

Description of four new species of Muricidae from southern Africa with range extensions and a review of the subgenus *Poropteron* Jousseaume, 1880 (Ocenebrinae).

Roland HOUART

3400 Landen (Ezemaal)

Research Associate at the Institut Royal des Sciences Naturelles de Belgique.

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ABSTRACT. Five species are recognized in the genus *Pteropurpura*, subgenus *Poropteron*: *P. (P.) uncinaria* (Lamarck, 1822), *P. (P.) graagae* (Coen, 1947), *P. (P.) debruini* Lorenz, 1989, *P. (P.) transkeiana* n.sp., and *P. (P.) multicornis* n.sp. All the species are illustrated and their synonymy and geographical range are given. Two other new species are described from South Africa: *Muricopsis mbotyensis* n.sp. and *Muricopsis valae* n.sp.. New range extensions to South Africa are given for *Muricopsis tokubeii* (Nakamigawa & Habe, 1964) (Muricopsinae), and *Typhis montforti* (A. Adams, 1863) (Typhinae). Differences in protoconch morphology are observed in a specimen here tentatively identified as *Typhis montforti*.

RESUME. Cinq espèces sont reconnues dans le genre *Pteropurpura*, sous-genre *Poropteron*: *P. (P.) uncinaria* (Lamarck, 1822), *P. (P.) graagae* (Coen, 1947), *P. (P.) debruini* Lorenz, 1989, *P. (P.) transkeiana* n.sp. et *P. (P.) multicornis* n.sp. Toutes les espèces sont illustrées et la synonymie ainsi que la distribution géographique sont mentionnées. Deux autres nouvelles espèces d'Afrique du Sud sont décrites: *Muricopsis mbotyensis* n.sp. et *Muricopsis valae* n.sp. et de nouvelles et importantes extensions géographiques vers l'Afrique du Sud sont mentionnées pour *Muricopsis tokubeii* (Nakamigawa & Habe, 1964) (Muricopsinae) et *Typhis montforti* (A. Adams, 1863) (Typhinae). Des différences dans la morphologie de la protoconque sont signalées pour une espèce identifiée provisoirement comme *Typhis montforti*.

## INTRODUCTION

Study of material housed in the Natal Museum, Pietermaritzburg, has revealed some very interesting species of South African Muricidae, chiefly collected during the Natal Museum Dredging Program (NMDP). Part of this material has been studied by VOKES (1978) and by HOUART (1987, 1989, and in press). The present paper reports on new species and important new range extensions in the sub-families Ocenebrinae, Muricopsinae, and Typhinae. The opportunity is taken to present a short revision of the ocenebrine subgenus *Poropteron*, endemic to the South African region.

### Abbreviations used in the text

BMNH: British Museum, Natural History, London, G.B.

HUJ: Hebrew University, Jerusalem, Israel.

MHNG: Muséum d'Histoire Naturelle de Genève, Switzerland.

NM: Natal Museum, Pietermaritzburg, South Africa.

NMDP: Natal Museum Dredging Program.

RH: collection of the author.

lv.: live taken material.

dd: empty shells.

## SYSTEMATICS

Subfamily Ocenebrinae Cossmann, 1903

Genus *Pteropurpura* Jousseaume, 1880

Subgenus *Poropteron* Jousseaume, 1880

Type species by subsequent designation (emendation) (Jousseaume, 1881) *Murex uncinarius* Lamarck, 1822.

The subgenus *Poropteron* comprises small and relatively smooth, polymorphic species, with an average size of 20-25 mm in length. All the species have a sealed siphonal canal and spinose varices, with more or less blunt spines. *Pteropurpura joostei* Lorenz, 1990 (Figs 6 & 7), although apparently related to the species of *Poropteron*, is here considered as *Pteropurpura s.s.*. Their more acute spines and its more scabrous surface is nearer to West African species of *Pteropurpura s.s.*, for instance *P. dearmatus* (Odhner, 1922) and *P. fairiana* (Houart, 1979).

*Pteropurpura (Poropteron) uncinaria*

(Lamarck, 1822)

Figs 1-5, 8-10, 53

*Murex uncinarius* Lamarck, 1822: 166

*Murex capensis* Sowerby, 1841a: pl. 190, fig. 76; Sowerby, 1841b: 143

*Murex quinquelobatus* Sowerby, 1879: 22, fig. 218

## OTHER REFERENCES

*Murex uncinarius*; KIENER, 1842: pl. 6, fig. 2; REEVE, 1845: sp. 156; SOWERBY, 1879: 26, fig. 33; BARNARD, 1959: 198, fig. 42(a); KENNELLY, 1964: 69, pl. 17, fig. 87; CERNOHORSKY, 1971: 190, fig. 11 (holotype).

*Pteryomurex uncinarius*; BARNARD, 1950: 76, pl. 8, fig. 7.

*Pteropurpura (Poropteron) uncinarius*; BARNARD, 1969: 638; FAIR, 1976: 84, pl. 23, fig. 358.

*Pteropurpura uncinarius*; KENSLEY, 1973: 142, fig. 485; BARNARD, 1974: 690; LORENZ, 1989: 49, text fig.

*Poropteron uncinarius*; RADWIN & D'ATILIO, 1976: 128, pl. 22, fig. 2.

*Poropteron uncinarius*; MIENIS, 1979: 7.

*Pteropurpura (Poropteron) capensis*; VOKES, 1978: 413, pl. 8, fig. 5.

*Pteropurpura capensis*; RICHARDS, 1981: 55, pl. 29, figs 224, 224a; KILBURN & RIPPEY, 1982: 82, pl. 18, fig. 4; LORENZ, 1989: 49, text fig.; LORENZ, 1990: 14, fig. 7.

*Pteropurpura (Poropteron) incurvispina*; FAIR, 1976: 49, pl. 23, fig. 359 (not *Pteropurpura incurvispina* Kilburn, 1970).

*Pterynotus (Purpurellus) quinquelobatus*; FAIR, 1976: 70, fig. 79.

NOT *Pteropurpura uncinarius*; RICHARDS, 1981: 55, figs 225-225a; VOKES, 1978: 412 (in part), pl. 8, fig. 4 = *Pteropurpura (Poropteron) graagae* (Coen, 1947).

NOT *Pteropurpura uncinaria*; KILBURN & RIPPEY, 1982: 82, pl. 18, fig. 6 = *Pteropurpura (Poropteron) graagae* (Coen, 1947).

## TYPE LOCALITIES

*Murex uncinarius*: unknown (Cape of Good Hope on the original label);

*Murex capensis*: Cape of Good Hope;

*Murex quinquelobatus*: unknown.

## TYPE MATERIAL

*Murex uncinarius*: holotype MHNG 1099/31; Other material not located (not in BMNH).

## OTHER MATERIAL EXAMINED

West coast Cape Peninsula, 31 m, NM B5518, 1 lv.; Cape, off Cape St Blaize, NM B1013, 182 dd; Cape Agulhas, between Skulpiesbaai & Struisbaai, beach drift, NM E6464, 7 dd; Jeffreys Bay, NM 5447, 10 dd; Cape Agulhas, Struisbaai, beach drift,

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 Figures 1-7

1-5. *Pteropurpura (Poropteron) uncinaria* (Lamarck, 1822)

1. Holotype MHNG 1099/31, 24.5 mm, photo G. Dajoz, courtesy H.K. Mienis.

2. Cape Peninsula, 24 mm, NM B5518.

3. Cape Agulhas, 18.4 mm, NM E6464.

4. False Bay, 23 mm, NM A5537.

5. Agulhas Bank, 34 mm, NM 6559

6-7. *Pteropurpura (Pteropurpura) joostei* Lorenz, 1990, holotype coll. Lorenz, 19.8 mm.





NM E6627, 1 dd; Cape, Fish River, NM B1523, 2 dd; False Bay, 15 m, NM B5519, 1 lv.; False Bay, off Buffels Bay, 2-8 m, NM E6069, 1 lv.; False Bay, Simonstown, NM A5537, 60 dd; False Bay, Cape Point, 1 km. of Penguin Rocks, 40 m, NM E594, 1 lv.; Port Alfred, NM A5497, 3 dd; Port Alfred, NM B6934, 6 dd; Agulhas Bank, NM E6559, 2 dd; off Agulhas Bank, RH, 1 dd; Hout Bay, West coast of Cape Peninsula, 30 m, RH, 1 lv.; Mpekweni, near Great Fish River mouth, RH, 1 dd; Jeffreys Bay, Cape, RH, 14 dd; Algoa Bay, RH, 1 dd; Port Elizabeth, RH, 4 dd; Aston Bay Tip, Jeffreys Bay area, coll. F. Lorenz, 9 dd; Cape Agulhas, 80 m, coll. F. Lorenz, 1 lv.; Cape Agulhas, in crayfish trap, 300 m, coll. F. Lorenz, 2 lv.; Pringle Bay area, Cape Hangklip, coll. F. Lorenz, 1 dd; Bakers Bay, 27°42' S - 15°30' E, Namibia, coll. B. & H. Lawson, 1 dd; Hottentots Bay, 26°07' S - 14°59' E, Namibia, coll. B. & H. Lawson, 1 dd.

#### RANGE

South Africa: From Port Alfred to North of Cape Town. Namibia: Bakers Bay and Hottentots Bay (Fig. 53).

#### DESCRIPTION

Shell up to 35 mm in length at maturity, spinose. Spire high with 1 1/2 - 1 3/4 protoconch whorls and up to 6 or 7 lightly shouldered teleoconch whorls. Protoconch whorls rounded, smooth, glossy. No apparent terminal varix. Suture weakly impressed or appressed. First teleoconch whorl with 9 or 10 axial ribs, second with 7 ribs, third to last teleoconch whorls with 3 varices. No other axial sculpture except occasionally one low (rarely strong) intervaricial node and some growth striae. Varices of last whorl with 3 ventrally sealed, sharp or blunt, more or less adapically bent spines, sometimes joined with a varicial webbed expansion. Spiral sculpture consisting of conspicuous, mostly weak, numerous smooth or scabrous threads; occasionally with low cords that interconnect the varicial spines. Shell surface smooth, or covered with vaulted scales. Aperture roundly-ovate. Columellar lip smooth, rim weakly erect, adherent at adapical extremity. Anal notch obsolete. Outer lip smooth, weakly erect. Siphonal canal short or medium-sized, straight, sealed, with 2 or very rarely 3 sealed, short, acute spines. Colour light to dark brown.

#### REMARKS

The study of more than 250 specimens from various localities was a great help in determining the high degree of variability in that polymorphic species. The shape, length and position of spines, as well as the spiral or/and axial sculpture may be different from one specimen to another. The length of the shell depends naturally on the number of teleoconch whorls.

The holotype of *P. uncinaria* (Fig. 1) has strongly adapically bent shoulder spines, only occasionally seen in that species (Fig. 3), but otherwise typical of *P. graagae* (Coen, 1947), another South African species from which *P. uncinaria* differs in having fewer, regularly longer and broader varicial spines, a somewhat shallower suture, and more rounded whorls. This peculiar spine ornamentation in the holotype of *P. uncinaria* has led to some misidentifications (see list of synonyms), and the erroneous synonymisation of *P. graagae* with *P. uncinaria*. MIENIS (1979) already noted these misidentifications and reinstated Coen's taxon.

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#### Figures 8-15

8-10. *Pteropurpura (Poropteron) uncinaria* (Lamarck, 1822)

8. False Bay, 23.5 mm, NM A5537

9. Cape, 26 mm, NM B1013 (broken spine on siphonal canal)

10. Jeffreys Bay, 24 mm, NM 5447

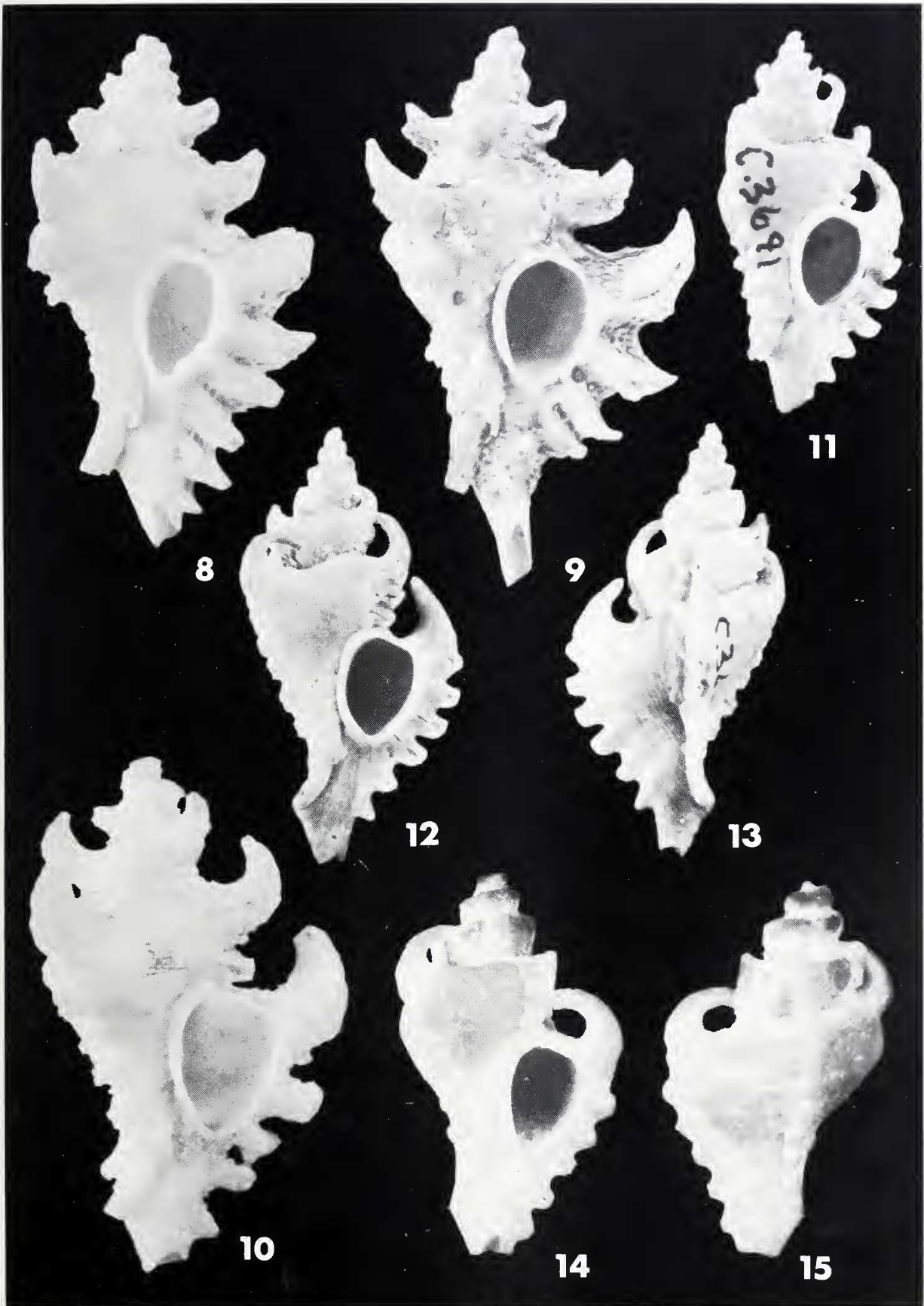
11-15. *Pteropurpura (Poropteron) graagae* (Coen, 1947)

11. Transkei, 17.5 mm, NM C3691

12-13. Transkei, 20 mm, NM C3691

14-15. Holotype HUU 20491, 14.9 mm.





*Pteropurpura (Poropteron) graagae*

(Coen, 1947)

Figs 11-15, 55

*Murex mitrififormis* Sowerby, 1841a: pl. 190, fig. 75 (not *Murex mitrififormis* Wood, 1828).

*Murex mitraeformis* Sowerby, 1879: 26, fig. 32 (emendation) (not *Murex mitraeformis* Brocchi, 1814).

*Poropteron graagae* Coen, 1947: 91.

*Pteropurpura incurvispina* Kilburn, 1970: 44, fig. 6 (nom. subst.).

## OTHER REFERENCES

*Poropteron graagae*; MIENIS, 1979: 8

*Pteryomurex mitraeformis*; BARNARD, 1950: 76, pl. 8, fig. 6.

*Murex mitraeformis*; BARNARD, 1959: 200, fig. 42(b).

*Pteropurpura (Poropteron) mitraeformis*; BARNARD, 1969: 638.

*Pteropurpura incurvispina*; KENSLEY, 1973: 142, fig. 483; LORENZ, 1989: 49, text fig.

*Poropteron incurvispina*; RADWIN & D'ATTILIO, 1976: 127, pl. 22, fig. 3.

*Pteropurpura uncinarius*; RICHARDS, 1981: 55, figs 225-225a; VOKES, 1978: 412 (in part), pl. 8, fig. 4 (not *Murex uncinarius* Lamarck, 1822).

*Pteropurpura uncinaria*; KILBURN & RIPPEY, 1982: 82, pl. 18, fig. 6 (not *Murex uncinarius* Lamarck, 1822).

NOT *Pteropurpura (Poropteron) incurvispina*; FAIR, 1976: 49, pl. 23, fig. 359 = *Pteropurpura (Poropteron) uncinaria* (Lamarck, 1822).

## TYPE LOCALITY

*Poropteron graagae*: Margate, Natal; *Murex mitraeformis*: Cape of Good Hope (erroneous).

## TYPE MATERIAL

*P. graagae*: holotype HUI n 20491. Other material not located (not in BMNH).

## OTHER MATERIAL EXAMINED

Natal, Mvoti River mouth, 0.3 m, NM A6220, 3 lv.; Natal, Tongaat, NM A5496, 5 dd; Natal, Port Shepstone, NM A5493, 12 dd; Natal, North coast, Chaka's Rock, NM5446, 2 dd; Natal, Isipingo, NM

A6217, 5 dd; Durban, NM A5492, 25 dd; Transkei, off Mncwasa Point, 32°05'02" S - 29°05'07" E, 32-35 m, NM C2713, 6 dd; East Transkei, Mbotyi, beach drift, NM C8115, 10 dd; Transkei, Hluleka, Shelley Beach, NM C1460, 7 dd; Transkei, Sandy Point, NM C3691, 16 dd; Transkei, Qora River mouth, NM D2342, 1 lv.; Transkei, Umgazana, NM B1521, 1 lv., 2 dd; Transkei, Mkambati area, Mgwe-tiana River mouth, NM C5629, 2 dd; Transkei, off Stony Point, 32° 32.2' S - 28°28.2' E, 70 m, NM C4313, NMDP, 1 dd; Transkei, Msikaba Is., N. side, NM C5526, 2 lv.; Transkei, off Sandy Point, 32°35.0' S - 28°34.0' E, 48-50 m, NM C4586, NMDP, 1 dd; Transkei, Dwesa, NM C6056, 7 dd; Transkei, Dwesa, NM C6056, 7 dd; Transkei, Mbotyi east, sheltered bay, NM A5275, 6 dd; Port Alfred, NM A6218, 3 dd; Gonubie, near East London, RH, 2 dd; Cintsa, RH, 1 dd; Haga Haga, RH, 3 lv.; Fullers Bay, East London, coll. F. Lorenz, 1 dd; Park Rynie, Natal, coll. F. Lorenz, 1 dd; Mbotyi, Pondoland Wild Coast, coll. F. Lorenz, 1 dd; Begha, Ciskei, coll. F. Lorenz, 2 dd; Kwelega mouth, coll. F. Lorenz, 1 dd.

## RANGE

South Africa, from North of Durban to Port Alfred (Fig. 55).

## Figures 16-23

16-17. *Pteropurpura (Poropteron) debruini* Lorenz, 1989, paratype NM S3295/T699, 20.5 mm.

18-20. *Pteropurpura (Poropteron) multicomis* n.sp.

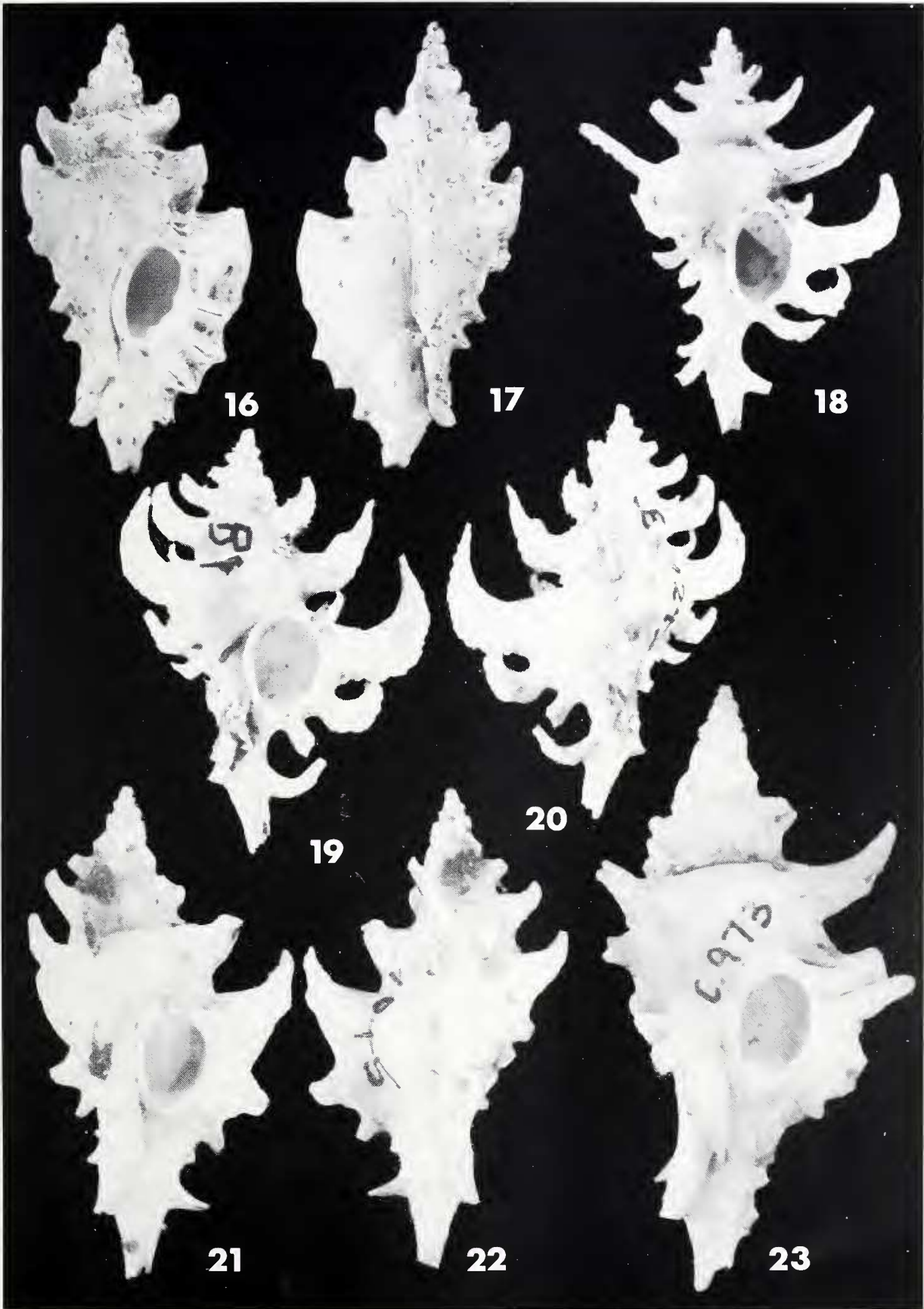
18. Paratype NM C1805/T456, 18.5 mm

19-20. Holotype NM B8249/T447, 19.5 mm

21-23. *Pteropurpura (Poropteron) transkeiana* n.sp.

21-22. Holotype NM S3775/T438, 22.7 mm

23. Paratype NM C973/T440, 29 mm





## DESCRIPTION

Shell up to 26.1 mm in length at maturity (coll. F. Lorenz), spinose, elongate. Spire high with 1 1/2 - 1 3/4 protoconch whorls and up to 6 or 7 teleoconch whorls. Protoconch whorls rounded, smooth, glossy. No apparent terminal varix. Suture deep, impressed. First teleoconch whorl with 6-8 irregularly placed axial ribs, second with 5 or 6 ribs, third with 5 ribs or 3 varices. Three varices from third or fourth whorl. No other axial sculpture except growth striae. Varices of last whorl with 4 or 5 blunt, very narrowly open or sealed spines. Shoulder spine long, sealed, strongly adapically bent with tip touching previous whorl. Other spines short, straight. Spiral sculpture consisting of very faint striae. Shell surface covered with minute, strong wrinkles and vaulted scales in fresh specimens. Aperture roundly-ovate. Columellar lip smooth, rim weakly erect, adherent at adapical extremity. Anal notch obsolete. Outer lip smooth, weakly erect. One specimen (coll. F. Lorenz) with 3 shallow denticles within outer apertural lip. Siphonal canal short, straight, sealed, with 2 or 3 short, very narrowly open, short, blunt spines. Colour light to dark brown.

## REMARKS

The species differs from *P. uncinarius* in being more elongate, smaller, in having a deeper and more impressed suture, and a more angulate shoulder. The shoulder spine is narrower and strongly bent adapically, what is only occasionally observed in *P. uncinaria*. The varicial spines are more numerous and, except for the shoulder spine, not often sealed as in *P. uncinaria* but mostly very narrowly open, short (except in the case of the shoulder spine) and blunt. MIENIS (1979) has already used *Poropteron graagae* Coen, 1947 as the oldest available junior synonym for *Murex mitraeformis* Sowerby, 1841. Study of the holotype (Figs 14, 15) leave no doubt about its identity, the species is clearly what Sowerby named *Murex mitraeformis* and was later renamed by KILBURN (1970) as *Pteropurpura incurvispina*. The type locality of *P. graagae* falls within the geographical range of the species, but the type locality of *Murex mitraeformis* is comprised in the geographical range of *Murex uncinarius* Lamarck, 1822, and is most certainly erroneous.

*Pteropurpura (Poropteron) debruini*

Lorenz, 1989

Figs 16, 17, 54

*Pteropurpura debruini* Lorenz, 1989: 50, text figs.

## TYPE LOCALITY

Hout Bay, South Africa.

## TYPE MATERIAL

Depository not mentioned, one paratype NM S3295/T699.

## MATERIAL EXAMINED

Paratype NM; Hout Bay, west coast of Cape Peninsula, 54 m, RH, 1 lv.

## RANGE

From Hout Bay, west coast of Cape Peninsula, South Africa, to Swakopmund, Namibia (approximately 23° S - 14° E) (F. Lorenz, in litt.). (Fig. 54).

## DESCRIPTION.

Shell up to 25 mm in length at maturity, spinose. Spire high with 1 3/4 protoconch whorls and up to 6 lightly convex teleoconch whorls. Protoconch whorls rounded, smooth. No apparent terminal varix. Suture lightly impressed. Third or fourth to last teleoconch whorls with 3 varices (early teleoconch whorls damaged in all examined specimens).

## Figures 24-31

24-26. *Muricopsis (Muricopsis) mbotyiensis* n.sp.

24-25. Holotype NM C9670/T462, 17 mm

26. Paratype NM C3836/T463, 10 mm

27-30. *Muricopsis (Murexsul) tokubeii* (Nakamigawa & Habe, 1964)

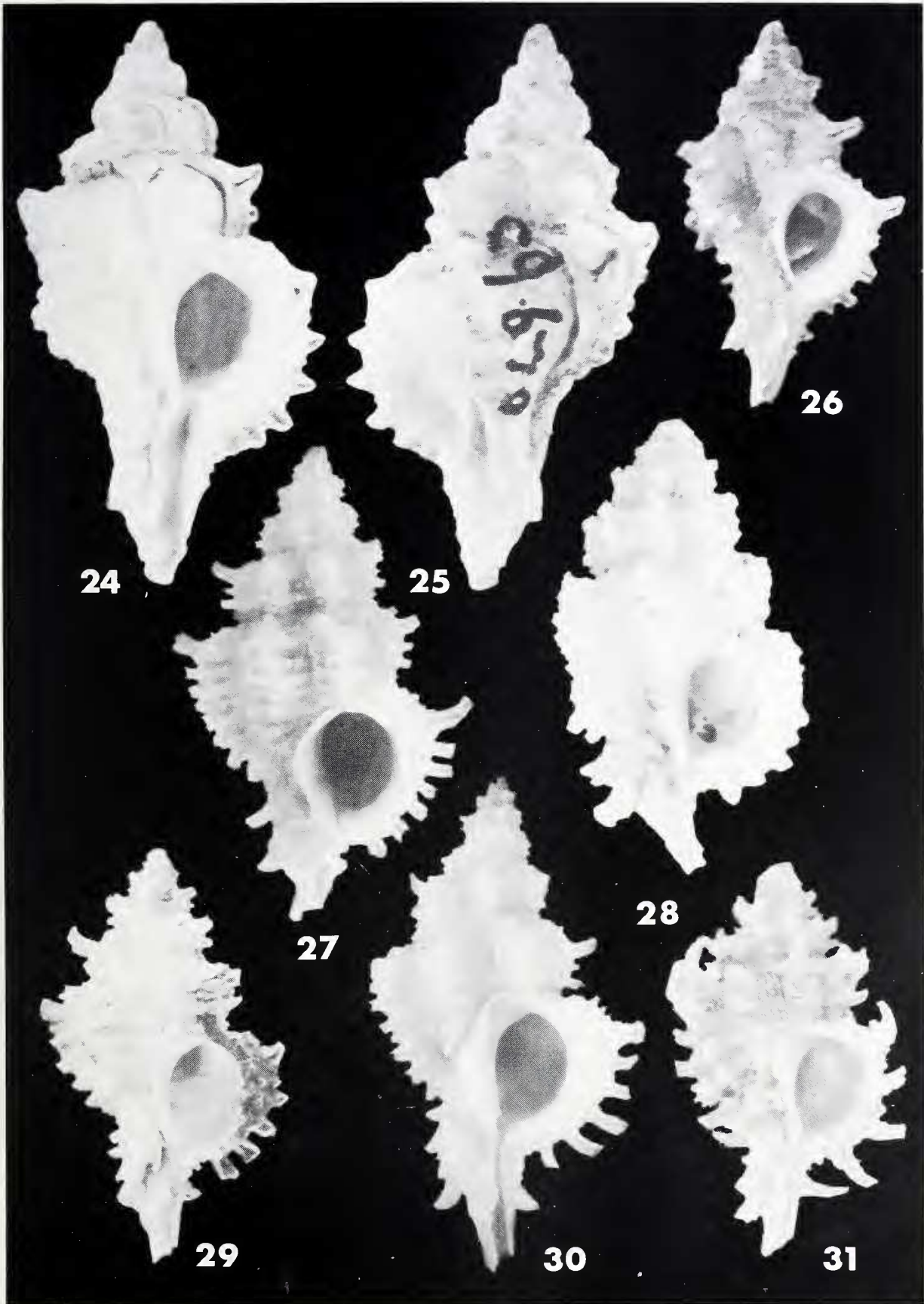
27. Zululand, 12.3 mm, NM E5110

28. Park Rynie, 11.5 mm, NM B3912

29. Aliwal Shoal, 11.2 mm, coll. V. van der Walt

30. North East Taiwan, 17.1 mm, coll. RH

31. *Muricopsis (Murexsul) valae* n.sp., paratype NM C5870/T467, 9 mm



No other axial sculpture except fine growth striae and one, relatively weak intervarical node. Varices of last whorl with 3 short spines. Shoulder spine longest, weakly bent adapically. Spines joined by a webbed varicial expansion with lamellate adapertural surface. Spiral sculpture consisting of numerous, shallow striae and 3 very low cords that connect the varicial spines. Aperture roundly-ovate. Columellar lip smooth, weakly erect abapically, adherent at adapical extremity. Anal notch obsolete. Outer lip smooth with 3 or 4 denticles within. Siphonal canal medium-sized, straight, sealed, with 2 short, sealed or narrowly open, acute spines. Colour whitish to brown.

#### REMARKS

Related to *P. uncinarius* and originally separated from that species (and from the other South African species of *Pteropurpura*) by its shorter and less curved shoulder spine, the less deep suture, the lesser number of varicial spines, the lack of intervarical node, and by the presence of denticles within the aperture. The species is obviously different from *P. graagae*, but study of many specimens of *P. uncinaria* allowed me to verify that most of these proposed differences are not constant. However, the distinct apertural denticles of *P. debruini*, not yet observed in *P. uncinaria*, and the fact that *P. debruini* apparently shows little intraspecific variation are the actual reasons for retaining it at the specific rank.

#### *Pteropurpura (Poropteron) transkeiana* n.sp.

Figs 21-23, 42, 56

#### TYPE MATERIAL

Transkei, off Mtamvuna River, stn A18, 31°08,4' S - 30°16,6' E, 160 m, holotype NM S3775/T438 and paratype NM C9645/T437, 1 lv., 1 dd; Natal, off Park Rynie, stn O1, 30°51,7' S - 30°22,1' E, 160 m, paratype NM C973/T440, 1 dd; Transkei, off Nthlonyane River, stn P2, 32°17,1' S - 29°04,9' E, 220-230 m, 3 paratypes NM S3781/T713, 1 paratype RH, 3 lv., 1 dd; Transkei, off Qolora River, stn Y2, 32°46,4' S - 28°35,4' E, 174 m, 2 paratypes NM C4633/T441, 1 paratype MNHN, 3 lv.; Transkei, off Mtamvuna, stn A7, 31°09,7' S - 30°15,3' E, 120-140 m, paratype NM C1596/T714, 1 lv.; Transkei, off Nqabara Point, stn SP, 32°27,3' S - 28°55,6' E, 210

m, paratype NM S3780/T712; Transkei, off Rame Head, stn K10, 31°50,7' S - 29°28,5' E, 150-160 m, paratype NM C1891/T442, 1 lv.; Transkei, off Nqabara Point, stn S10, 32°27,2' S - 28°55,9' E, 250 m, paratypes NM C6290/T443, 3 dd; Transkei, off Ubombo Head, stn L11, 31°58,2' S - 29°23,4' E, 200 m, paratype NM C8976/T444, 1 lv.; Transkei, off Waterfall Bluff, stn E12, 31°30,15' S - 29°55,8' E, 300 m, paratype NM C9720/T445, 1 dd; Transkei, off Qora River, stn 49, 32°23,8' S - 28°48,7' E, 196 m, paratypes NM C5160/T446, 2 lv., 1 dd. All NMDP.

#### RANGE

From 30°51' S - 30°22' E to 32°46' S - 28°35' E, 150-200 m (live taken material) (Fig. 56).

#### ETYMOLOGY

Named for the type locality.

#### DESCRIPTION

Shell up to 29 mm in length at maturity (paratype NM C973/T440), stout, spinose. Spire high with 1 1/2 - 1 3/4 protoconch whorls and up to 7 angulate teleoconch whorls. Protoconch whorls rounded, smooth. No apparent terminal varix. Suture weakly impressed. First teleoconch whorl with 6 or 7 axial ribs, second with 5 or 6 ribs, or 3 varices, second or third to last teleoconch whorls with 3 varices. Other axial sculpture consisting of 1, rarely 2, intervarical nodes, and many growth striae. Varices of last teleoconch whorl with 3 short, acute, sealed spines.

#### Figures 32-41

32-35. *Muricopsis (Murexsul) valae* n.sp.

32-33. Holotype NM S3376/T439, 12.9 mm

34. Paratype NM C7577/T469, 8.1 mm

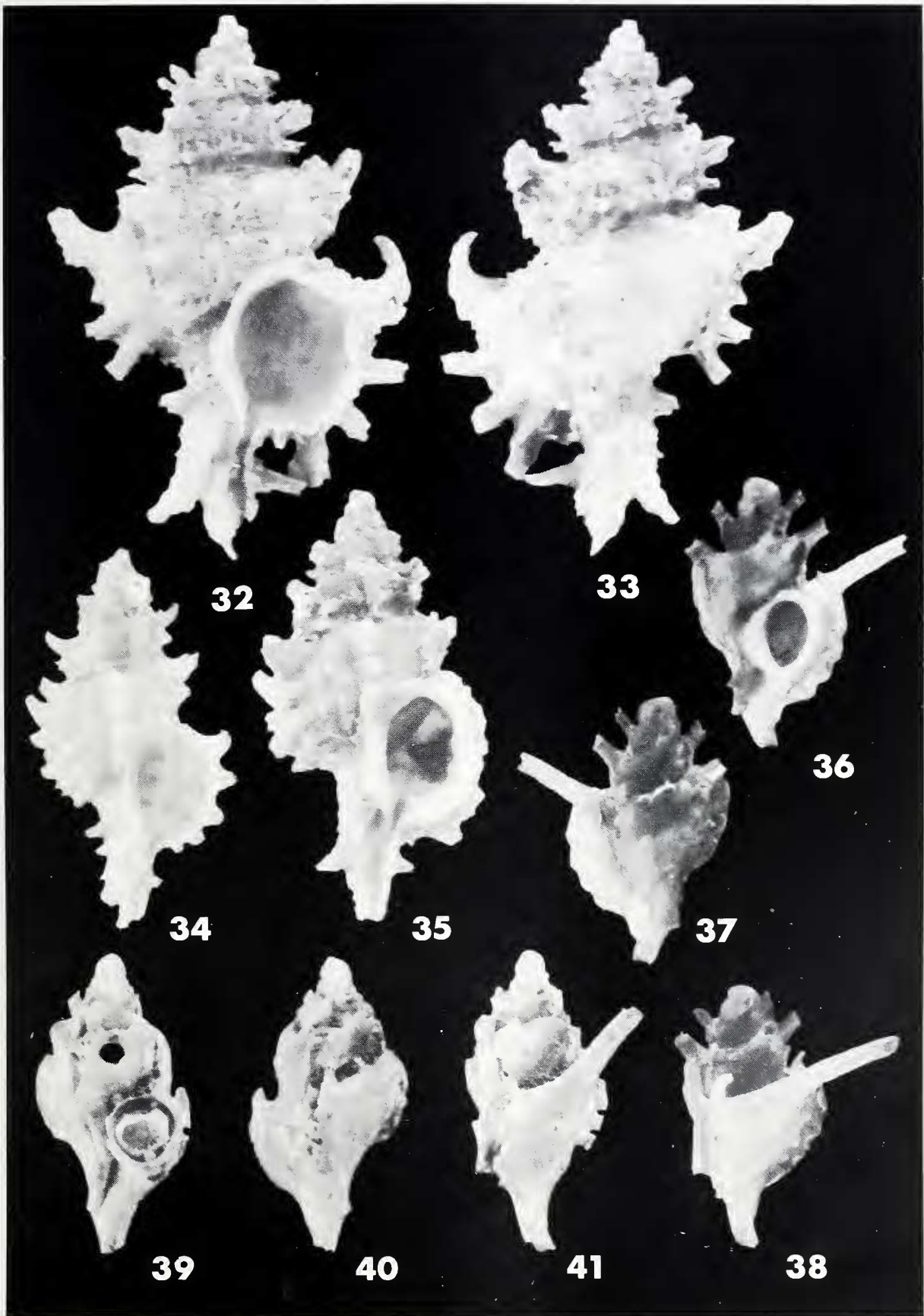
35. Paratype NM B5770/T466, 9.8 mm

36-41. *Typhis (Typhina) montforti* (A. Adams, 1863)

36-38. Transkei, 5.2 mm, NM C5896 (rounded protoconch)

39-41. Transkei, 6 mm, NM E7666 (keeled protoconch)





Shoulder spine longest. Spiral sculpture of last whorl consisting of numerous threads and 3 weak to strong cords that interconnect the varicial spines. Other whorls with numerous spiral threads. Aperture roundly-ovate. Columellar lip smooth, weakly erect abapically, adherent at adapical extremity. No anal notch. Outer lip weakly erect, smooth. Siphonal canal medium-sized, straight, sealed, with 1 or occasionally 2 straight acute spines. Abapertural spine longest, adapertural spine short or obsolete. Whitish.

#### REMARKS

*P. transkeiana* differs from the other South African species of *Poropteron* in its more angulate outline, due to the presence of intervaricial node(s) and sometimes obvious spiral cords. The varices are thicker, the spines are acute and short in all specimens. The shell has also fewer axial ribs on the first and second teleoconch whorls and a siphonal canal with short or obsolete spine adaperturally and a longer, acute spine abaperturally, *P. uncinaria*, *P. graagae* and *P. debruini* having 2 or 3 spines on the siphonal canal, with longer spine adaperturally. All specimens examined are whitish, whereas other South African species of *Poropteron* are whitish to light or dark brown. *P. transkeiana* differs from *Pteropurpura joostei* Lorenz, 1990 in its higher spire, smaller shell (for a same number of teleoconch whorls), smaller protoconch, smoother surface. The spiral cords are not scabrous, narrower, and more regular. The spine on abapertural part of the siphonal canal is narrower, longer and more acute.

*Pteropurpura (Poropteron) multicornis* n.sp.  
Figs 18-20, 57

#### TYPE MATERIAL

East Cape, off East London, stn xx46, 33°04,7' S - 28°07,2' E, 90 m, holotype NM B8249/T447, lv.; Transkei, off Bulungula River mouth, stn O1, 32°09,8' S - 29°04,6' E, 90 m, paratype NM C2516/T448, dd; Transkei, off Sandy Point, stn W1, 32°37,4' S - 28°36,9' E, 90 m, paratypes NM C4514/T449, 2 dd; Transkei, off Mncwasa Point, stn N5, 32°06,5' S - 29°07,6' E, 90 m, paratypes NM C2240/T450, 2 lv., 4 dd; Transkei, off Nthlonyane River, stn P5, 32°15,4' S - 29°00,8' E, 90-95 m,

paratypes NM C2552/T451, 4 lv., 1 dd; Transkei, off Sandy Point, stn W5, 32°40,3' S - 28°40,4' E, 97 m, 2 paratypes NM C4594/T452, 1 paratype MNHN, 3 lv.; Transkei, off Whale Rock, stn M6, 31°59,5' S - 29°16,9' E, 90 m, paratype NM C2843/T453, lv.; Transkei, off Mncwasa Point, stn N7, 32°05,7' S - 29°06,9' E, 74 m, paratype NM C3088/T454, lv.; Transkei, off Qolora River, stn Y8, 32°46,1' S - 28°35,0' E, 114 m, 1 paratype RH, 1 paratype NM C3944/T455, 2 lv.; Transkei, off Mncwasa Point, stn N9, 32°05,7' S - 29°06,9' E, 74 m, paratype NM C1805/T456, lv.; Transkei, off Whale Rock, stn M12, 31°58,8' S - 29°16,8' E, 90 m, paratypes NM C9477/T457, 2 lv., 2 dd; East Cape, off East London, stn xx47, 33°06,8' S - 28°04,9' E, 90 m, paratype NM B8004/T458, lv.; Natal, between Umgababa and Umzimbazi Rivers, stn xx101, 30°08,6' S - 30°56,7' E, 70 m, paratype NM D3592/T459, lv.; Natal, off Durban, stn xx113, 29°50,2' S - 31°12,3' E, 95 m, paratype NM D4053/T460, dd. All NMDP. Off Umhlanga Rocks, 58 fms (106 m), paratype NM B6264/T461, dd.

#### RANGE

From 29°50' S - 31°12' E, to 33°06' S - 28°04' E, 70-114 m (live taken material) (Fig. 57).

#### ETYMOLOGY

multi (many) + cornis (horns), L.

Figures 42-52 (scale bars 0.5 mm)  
Protoconchs.

42. *Pteropurpura (Poropteron) transkeiana* n.sp., paratype NM C4633/T441

43-44. *Muricopsis (Murexsul) tokubeii*, NM D8988

45. *Muricopsis (Muricopsis) mbotyiensis* n.sp., paratype NM C3836/T463

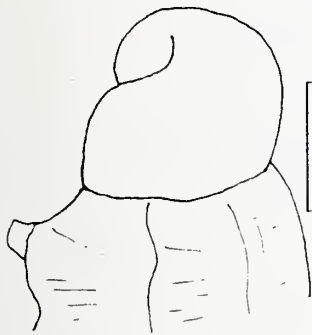
46-49. *Muricopsis (Murexsul) valae*

46-47. Paratype NM C5870/T467

48-49. Paratype NM C7577/T469

50-52. *Typhis (Typhina) montforti*

50. NM C5896. 51-52. NM E 7666



42



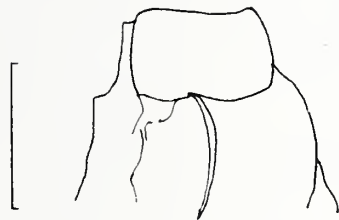
43



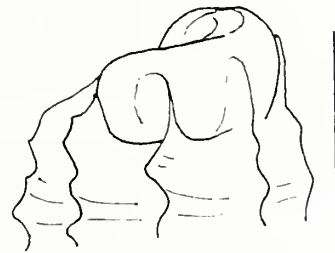
44



45



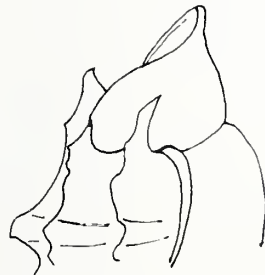
46



47



48



49



50



51



52



## DESCRIPTION

Shell up to 19.5 mm in length (holotype), lightly built, spinose. Spire high with 1 1/2 - 1 3/4 protoconch whorls and up to 6 weakly convex, spinose teleoconch whorls. Suture impressed. First teleoconch whorl with 5 or 6 axial ribs, 3 varices from second to last teleoconch whorls. No other axial sculpture except fine growth striae. Varices of last whorls with 3 sealed or very narrowly open, long spines. Shoulder spine longest, abapical spine shortest. Spines weakly or strongly adapically bent at their extremity. Spiral sculpture consisting of numerous striae of different magnitudes, more obvious on abapertural side of spines. Aperture roundly-ovate. Columellar lip smooth, abapically erect, adherent at adapical extremity. Anal notch obsolete. Outer lip weakly erect, smooth. Siphonal canal medium-sized, straight or weakly abaxially bent, sealed, with one frequently long, adaperturally bent or occasionally straight sealed spine. Whitish.

## REMARKS.

*Pteropurpura multicornis* n.sp. resembles only the form of *P. uncinaria* with long and adapically bent shoulder spines (Fig. 10), but differs in the single, long, more adaperturally bent spine on the siphonal canal, *P. uncinaria* there bearing 2 or occasionally 3 short, acute and frequently abaperturally bent spines. The siphonal canal in *P. multicornis* is narrower, the intervaricial area lacking axial sculpture in all examined specimens, the first teleoconch whorl with fewer axial ribs and the second whorl already with 3 varices.

Subfamily Muricopsinae Radwin & D'Attilio, 1971

Genus *Muricopsis* Bucquoy & Dautzenberg, 1882

Subgenus *Muricopsis* (s.s.)

Type species by original designation *Muricopsis blainvillei* Payraudeau, 1826.

*Muricopsis (Muricopsis) mbotyiensis* n.sp.

Figs 24-26, 45

## TYPE MATERIAL

Transkei, off Mbotyi, stn F14, 31°33,2' S - 29°51,9' E, 250, holotype NM C9670/T462, dd; Transkei, off Whale Rock, stn M8, 32°01,3' S -

29°19,3' E, 150-200 m, paratype NM C3836/T463, lv. NMDP.

## ETYMOLOGY

Named for the type locality

## DESCRIPTION

Shell up to 17 mm in length at maturity (holotype), weakly spinose, stout. Spire high with 1 3/4 protoconch whorls and up to 6 weakly shouldered teleoconch whorls. Protoconch whorls rounded, smooth, terminal varix eroded. Suture lightly impressed. First teleoconch whorl with 6 axial varices, second with 8, third with 7, fourth with 6, fifth with 5, last teleoconch whorl (holotype) with 4 varices with 5 or 6 short, acute, open spines. Former whorls with shoulder spine and 1 or 2 shorter spines adaperturally. Other axial sculpture consisting of fine growth striae. Spiral sculpture of last teleoconch whorl of 5 or 6 more or less strong cords that connect the varicial spines. Presence of one thread between each pair of cords in the paratype. Former whorls with 2 or 3 spiral cords. Aperture rounded. Columellar lip flaring, smooth, rim erect abapically, adherent adapically. Anal notch shallow, broad. Outer lip broad with 5 strong (holotype) or weak (paratype) denticles within. Siphonal canal medium-sized, straight, open, with 2 small, acute, open spines in the paratype; spines almost obsolete in the holotype. Uniformly light brown.

## REMARKS

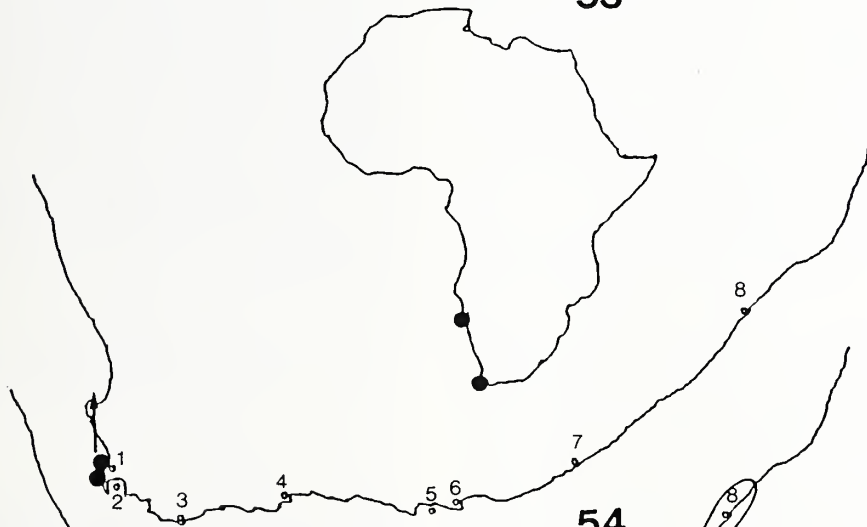
*Muricopsis mbotyiensis* n.sp. is different from other species of *Muricopsis* s.s. in its rounded aperture with broad outer lip and arrangement of denticles within. *Muricopsis (Murexsul) cuspidatus* (Sowerby, 1879) from New Caledonia is somewhat similar but has a more ovate aperture with narrow

Figures 53-57 Geographical range.

53. *Pteropurpura (Poropteron) uncinaria*
54. *Pteropurpura (Poropteron) debruini*
55. *Pteropurpura (Poropteron) graagae*
56. *Pteropurpura (Poropteron) transkeiana*
57. *Pteropurpura (Poropteron) multicornis*



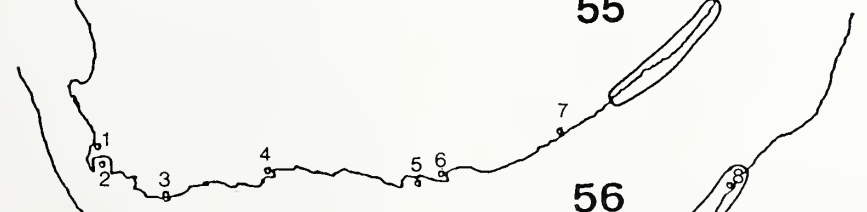
53



54



55



56



57

outer lip and a different arrangement of denticles, a comparatively larger shell with narrower, and (typical for the subgenus *Murexsul*) more spinose varices.

Subgenus *Murexsul* Iredale, 1915

Type species by original designation *Murex octogonus* Quoy & Gaimard, 1833.

*Muricopsis (Murexsul) tokubeii*

(Nakamigawa & Habe, 1964)

Figs 27-30, 43-44

MATERIAL EXAMINED

North Zululand, off Rocktail Bay, stn ZD1, 27° 11,04' S - 32° 51,0' E, 100 m, NM D7611, 1 dd; Natal, off Park Rynie, stn X2, 30° 22,5' S - 30° 51,2' E, 130 m, NM B5770, 2 dd; Transkei, off Mzamba River, stn XX2, 31° 06,0' S - 30° 18,3' E, 100 m, NM C5489, 1 dd; Transkei, off Mpahlana River, stn XX3, 31° 07,1' S - 30° 16,8' E, 100 m, NM C5241, 3 lv.; North Zululand, off Dog Point, stn ZC3, 27° 06,5' S - 32° 52,9' E, 70 m, NM D6484, 1 lv.; North Zululand, off Jesser Point, stn ZH3, 27° 32,8' S - 32° 42,6' E, 68 m, NM D6511, 2 lv., 1 dd; Zululand, N.E. of Leven Point, stn ZL3, 27° 54,3' S - 32° 38,0' E, 105 m, NM E4844, 1 lv.; Zululand, S.E. of Mission Rocks, stn ZN3, 28° 17,1' S - 32° 34,5' E, 150 m, NM E5110, 1 lv.; North Zululand, off Boteler Point, stn ZB4, 27° 00,8' S - 32° 55,1' E, 70 m, NM D7395, 1 dd; Zululand, N.E. of Gipsy Hill, stn ZK4, 27° 45,2' S - 32° 39,8' E, 110 m, NM E3730, 1 lv.; Transkei, off Kei River, stn Z5, 32° 47,6' S - 28° 31,8' E, 85 m, NM C4952, 2 lv.; Zululand, S.E. of Cape Vidal, stn ZM5, 28° 19,2' S - 32° 36,4' E, 110 m, NM E4910, 1 dd; Transkei, off Port Grosvenor, stn D6, 29° 58,0' S - 31° 25,6' E, 100-110 m, NM C3841, 1 dd; Transkei, off Mtamvuna River, stn A7, 31° 09,7' S - 30° 15,3' E, 120-140 m, NM C3844, 1 lv.; Zululand, S.E. of Port Durnford, stn ZQ7, 29° 05,0' S - 32° 08,2' E, 90-95 m, NM E8392, 1 lv.; Transkei, between Mpahlana & Umyameni Rivers, stn XX8, 31° 08,4' S - 30° 16,2' E, 100 m, NM C5385, 1 lv.; Transkei, between Mzamba & Mpahlana Rivers, stn XX9, 31° 10,6' S - 30° 14,1' E, 100 m, NM C5310, 1 lv.; Transkei, off Stony Point, stn V10, 32° 35,5' S - 28° 42,2' E, 95 m, NM C5044, 2 dd; Transkei, off Kwanyana River, stn XX10, 31° 11,0' S - 30° 13,4' E, 100 m, NM C5323; North Zululand, off Kosi

River Mouth, stn ZA10, 26° 53,9' S - 32° 55,5' E, 50 m, NM D6851, 1 lv.; Transkei, off Mbashe River, stn Q12, 32° 20,6' S - 29° 00,2' E, 100 m, RH, ex NM C9518, 1 lv.; North Zululand, off Kosi River Mouth, stn ZA13, 26° 54,6' S - 32° 56,6' E, 75 m, NM D8988, 2 lv., 1 dd; Natal, off Port Edward, stn XX58, 31° 06,4' S - 30° 18,0' E, 125 m, NM D1623, 2 lv.; Natal, off Port Edward, stn XX59, 31° 06,8' S - 30° 17' 08" E, 120-125 m, NM D1387, 2 lv., all NMDP; Natal, off Scottsburgh, 100 m, NM B3474, 1 lv.; Dredged of Park Rynie, 100 m, NM B3713, 5 dd; Dredged of Park Rynie, 140 m, NM 3853, 1 dd; off Park Rynie, 136 m, NM B3912, 1 lv., 2 dd; Aliwal Shoal, 30-50 m, 3 dd, coll. V. van der Walt; Richards Bay, 1 dd, RH (ex coll. V. van der Walt).

REMARKS

Until now only reported from Japan. The discovery of many specimens in southern Africa, together with other species previously only known from New Caledonia or Japan (Houart, in press) is very interesting. Most of these species with small, paucispiral protoconch, thus with non planktotrophic larval development, however live a more or less short time as planktonic larvae (without feeding in the plankton), which could explain their wide geographical range.

*Muricopsis (Murexsul) valae* n.sp.

Figs 31-35, 46-49

TYPE MATERIAL

Transkei, off Stony Point, stn V10, 32° 35,5' S - 28° 42,2' E, 95 m, holotype NM S3776/T439, 2 paratypes NM C4213/T464, dd; Transkei, off Sandy Point, stn W1, 32° 37,4' S - 28° 36,9' E, 90 m, paratype NM C7745/T465, lv.; Natal, off Park Rynie, stn X2, 30° 22,5' S - 30° 51,2' E, 130 m, paratypes NM B5770/T466, 2 lv.; Transkei, off Nqabara Point, stn S5, 32° 21,6' S - 28° 51,1' E, 70-75 m, 2 paratypes NM C4721/T715, 1 paratype MNHN, 3 dd; Transkei, off Port Grosvenor, stn D6, 29° 58,0' S - 31° 25,6' E, 100-110 m, paratype NM C3841/T716, 1 dd; NM Transkei, off Whale Rock, stn M6, 31° 59,5' S - 29° 16,9' E, 90 m, paratypes NM C5870/T467, 2 lv., 2 dd; Transkei, off Mbashe River, stn Q6, 32° 17,8' S - 28° 56,1' E, 75 m, 3 paratypes NM C3835/T468, 1 paratype RH, 3 lv., 1 dd; Trans-



kei, off Sandy Point, stn W6, 32°40,3' S - 28°40,4' E, 94 m, paratypes NM C7577/T469, 3 lv., 1 dd; Transkei, off Mtamvuna River, stn A7, 31°09,7' S - 30°15,3' E, 120-140 m, paratype NM C3844/T470, dd. All NMDP. Aliwal, South Natal, coll. V. van der Walt, 1 fragment.

#### ETYMOLOGY

Named for Mrs Valarie (Val) van der Walt (Natal, South Africa).

#### DESCRIPTION

Shell up to 12.9 mm in length at maturity (holotype), spinose. Spire high, with 1 1/2 - 1 3/4 protoconch whorls and up to 5 convex spinose teleoconch whorls. Protoconch keeled, smooth, ending with a slightly curved, weakly erect terminal varix. Suture impressed. First teleoconch whorl with 6-9 axial varices, second with 7-9, third and fourth with 6-9, last teleoconch whorl with 4 or 5 spinose, narrow varices with 4 or 5 short to medium-sized narrowly open spines. Shoulder spine usually strongly adapically bent. Other axial sculpture consisting of numerous growth striae. Spiral sculpture of 4 or 5 cords that connect varicial spines, occasionally with one thread between each pair of cords. Aperture rounded. Columellar lip flaring, smooth, abapically erect, adherent on small portion adapically. Anal notch shallow, almost obsolete, broad. Outer lip erect, smooth within or with 3 or 4 faint denticles. Siphonal canal short, straight, open, with one short to medium-sized open spine. Light brown.

#### REMARKS

A highly variable shell in spine length and strength of spiral ornamentation. The protoconch is keeled in all specimens but the first protoconch whorl may be more flattened or erect and narrow (Figs 46-49) although the terminal varix is identical in all forms. At first sight the species was divided by me into two taxa, namely the forms here figured in Fig. 31 and Figs 32-35. The presence of the same number of varicial spines, almost identical spiral sculpture and aperture, as well as an identical siphonal canal, convinced me that all these specimens were conspecific. One must also take into account that only the holotype (Figs 32 & 33) and 2 paratypes (not figured) are probably fully adult.

*Muricopsis (Murexsul) kieneri* (Reeve, 1845) and *M. (M.) nothokieneri* (Vokes, 1978), two South African species, have more numerous varices (8-10) and more numerous spiral cords (6-7) on last teleoconch whorl, while they have bulbous and rounded protoconch whorls. Other species of *Murexsul* are clearly distinct.

Subfamily Typhinae Cossmann, 1903

Subgenus *Typhina* Jousseaume, 1880

Type species by original designation *Typhis belcheri* Broderip, 1833.

#### *Typhis (Typhina) montforti*

(A. Adams, 1863)

Figs 36-41

#### MATERIAL EXAMINED

Transkei, off Sandy Point, stn W1, 32°37,4' S - 28°36,9' E, 90 m, NM C4515, 1 dd; Transkei, off Whale Rock, stn M6, 31°59,5' S - 29°16,9' E, 90 m, NM C5869, 1 dd; Transkei, off Whale Rock, stn M8, 32°01,3' S - 29°19,3' E, 150-200 m, NM C5896, 1 lv.; Transkei, Shixini Point, stn T17, 32°31,6' S - 28°53,0' E, 500 m, NM E7666, 1 dd; Natal, off Point Durnford, stn XX124, 29°03,7' S - 32°09,2' E, 114 m, NM E1620, 1 dd. All NMDP.

#### REMARKS

This is the second species of Typhinae previously known from the Pacific Ocean, that is now reported from southern Africa. One specimen (NM E7666) is atypical for *Typhina montforti*, dredged in the same area. Only the protoconch is different, this being globose and rounded in *T. montforti* (Fig. 50), but more elongate and strongly keeled in the present specimen (Fig. 51 & 52). A similar case was reported for *Haustellotyphis cumingii* (Broderip, 1833), an eastern Pacific species with rounded protoconch whorls, for which several specimens with a weakly keeled protoconch were reported (HERTZ, 1990). The form of the protoconch of typhine species usually shows very little variation, but I think it advisable to wait for more specimens and/or data before taking a decision.

#### Acknowledgements

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